

To begin with, Doctor Rodin's comment concerning the attitude of physicians, even oculists, toward sight-saving classes is timely. We ophthalmologists are prone to be jealous of our results, and are reluctant to admit that we have not afforded our patients 6/6 vision. We proudly call the attention of the parent to a gain of at least from 6/60 to 6/30, forgetting that 6/30 vision still leaves the child educationally handicapped. Again, believing that the use of the eye will improve its visual acuity, some advise regular class work in school, not realizing that our modern public school curriculum spells *excessive use of the eyes*, or *strain* to the child with defective vision.

We do not ask the athlete to begin with the impossible to train to do his best.

Placing a child in a sight-saving class does not diminish his vision. It does diminish the *abuse* of his vision. He obtains his education with greater ease and does not mortgage his future vision, but retains it for later industrial use and enjoyment.

It may be that we of today are too paternalistic. There is a question whether we gain socially or economically in trying to educate the moron. But the nineteen cases reported by Doctor Rodin are representative of hundreds of children who have demonstrated that special attention to the physically handicapped, even the subnormal mentally (No. 19) has unquestioned social advantages. Moreover, we should be careful in classifying as subnormal mentally a child who does not measure up by an intelligent quotient test and who, at the same time, is handicapped physically. As Dr. Don Flagg has so frequently pointed out it may be a case of "mental retardation from deprivation of a special sense," which should solicit our sympathetic assistance, even though it may injure our professional pride that our patient has to attend a sight-saving class.

It is a pathetic picture—the visually handicapped child left in the regular grades to fight his way against terrific odds; yet how quickly we protest if an athlete is handicapped by the slightest injustice.

One of the crying needs of the day, therefore, is greater sight-saving class facilities. With an enrollment of 200,000 in the first eight grades of our Los Angeles city schools, according to estimates there are probably four hundred children in these grades with vision so poor as to require special aid in order to obtain their education in a reasonable time, if at all. We have, however, less than one hundred in our elementary grades assigned to sight-saving classes, and about thirty in junior high grades. Probably other cities have a similar deficiency. Greater concern for the education of their patients on the part of oculists and better coöperation with the school physician, who well appreciates these facts, might mitigate this wrong.

I commend Doctor Rodin for his timely presentation of the facts with typical cases as proof.

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GEORGE H. KRESS, M.D. (945 Roosevelt Building, Los Angeles).—Of the twenty-five million school children in our country, about three million have visual defects of sufficient amount to become, if not corrected, handicaps during and after school years. Children with deficient vision of a degree sufficient to place them in what is known as the partially-seeing group should be sent to sight-saving classes. Doctor Rodin has indicated the types and degrees of visual deficiencies which give the indications for transferring children from ordinary classrooms to the sight-saving classes. A perusal of the case reports which he submits makes understandable the reasons why society, because of the physical and emotional factors involved, is obligated to aid such children. The care of those thus embarrassed is a problem worthy of the serious attention of physicians, because the future happiness of these future citizens is determined, to a large extent, by the means taken to educate them during their school years. Children with such visual defects are handicapped not only in ordinary school work and in play, but often in their homes; and so much so that

they can easily develop inferiority complexes, and occasionally, through egotism in the possession of an unusual physical deformity, superiority or extrovert complexes.

It is heartening to know that almost five hundred sight-saving classes are maintained today in about 150 different communities. It is true that this provides for only a small percentage of the fifty thousand or so children in the United States who need this special sight-saving training, but it is a real and much needed beginning. It is gratifying, also, to know that San Francisco, Los Angeles, and other cities are among the progressive centers which have inaugurated such training in California. We suggest that California communities in need of sight-saving classes ask Doctor Rodin to aid them in the solution of their problems.

ENCEPHALOGRAPHY IN CHILDREN*

By F. G. LINDEMULDER, M. D.

San Diego

DISCUSSION by Howard Fleming, M.D., San Francisco; E. B. Shaw, M.D., San Francisco; Mark Albert Glaser, M.D., Los Angeles.

IT has been just during the past few years that encephalography has become a common adjunct of the neurological examination. Only recently has its use been extended appreciably to the realm of pediatrics. Its value lies chiefly in the diagnostic field, although it has been found to have a therapeutic value as well. The encephalogram checks the clinical diagnosis and is an aid in demonstrating to the physician, as well as to the relatives of the patient, the organic change that has taken place in the brain. Therapeutically, the procedure may have a favorable effect in cases of concussion headache, traumatic encephalitis, and the epilepsies, especially those due to encephalitis.

INDICATIONS AND CONTRA-INDICATIONS

Encephalography is not a procedure to be recommended lightly without regard to the type of case. It is dangerous in cases of tumor of the posterior fossa, unless the fluid is drawn off slowly and the air injected at intervals following the removal of small quantities of cerebrospinal fluid. It is positively contraindicated, in my opinion, in the presence of an infection either in the blood stream or in some focus near the cranial cavity. Under such circumstances, I have seen the removal of spinal fluid followed by the development of a meningitis which, I feel sure, would not have occurred if the infection had not, so to speak, been drawn into the central nervous system. Aside from these two considerations, however, it may be looked upon as a harmless procedure.

ANESTHETIC

I prefer an inhalation anesthetic for making encephalograms in children, because of the difficulty in obtaining coöperation, and the possibility that the child may move and break the lumbar puncture needle. It has been my custom, there-

* From the Rees-Stealy Clinic.

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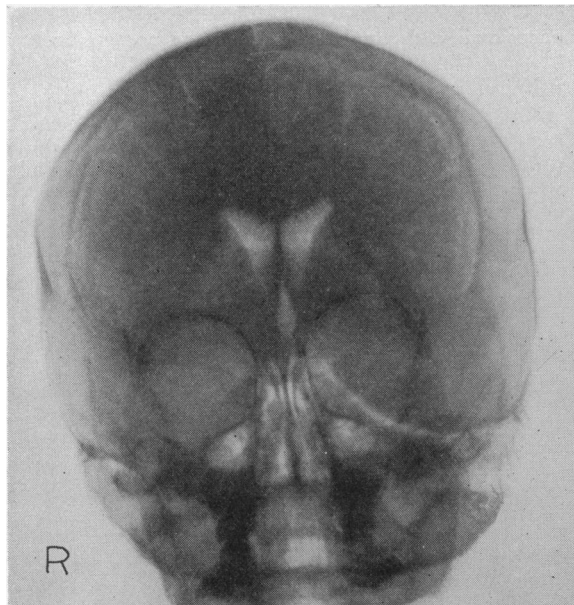


Fig. 1

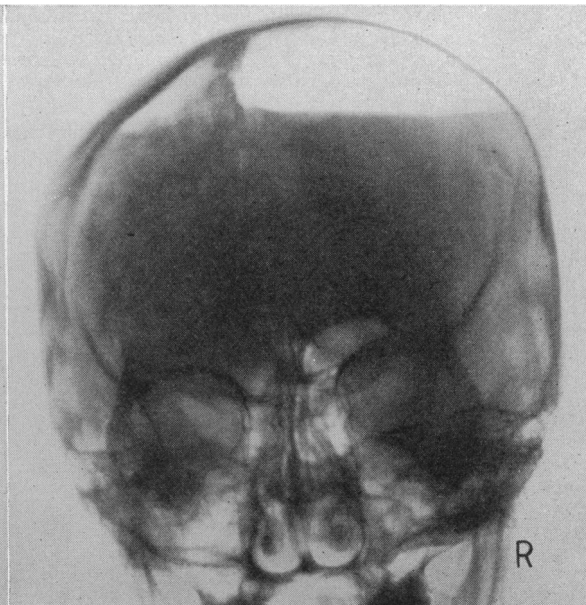


Fig. 2

Fig. 1.—Subarachnoid space over right cerebral cortex demonstrates little if any air as compared with the left. The ventricular system is of normal size and position. Case of adhesive arachnoiditis following subarachnoid hemorrhage.

Fig. 2.—External hydrocephalus resulting from birth injury. The ventricular system was not visualized.

fore, to use ether anesthesia. Others, however, have had good results with barbituric acid preparations, avertin, morphia, etc.

WITHDRAWAL OF THE CEREBROSPINAL FLUID

In withdrawing the cerebrospinal fluid and injecting the air, it is best to replace each five cubic centimeters of fluid removed with the same amount of air. The total amount of air injected equals the total amount of fluid removed; and this varies with the individual patient and the type of brain disturbance. I feel that 150 cubic centimeters of air are sufficient to make an accurate diagnosis; occasionally, in cases in which it was possible to inject only 60 cubic centimeters of air, this amount was found, surprisingly, to be sufficient for diagnosis.

PROCEDURE IN TAKING THE ENCEPHALOGRAM

For taking the encephalogram, a special chair such as has been described by Camp and Wagoner, and others, or an operating table may be used. At the beginning of the procedure the patient may lie on his side; but it is soon necessary to place him in a sitting posture in order to obtain sufficient flow of the cerebrospinal fluid. The patient then remains in the upright position until after the roentgenograms are taken. This prevents a shift of air, which might cause difficulty in the interpretation of the films.

The encephalogram not only may show the location and size of the ventricles and cisterns, but also, since the air spreads over the cortex as well, may demonstrate the presence of cortical atrophy, subdural growths and hemorrhages. Therefore, the x-ray films should include at least anterior-posterior, posterior-anterior, and right and left stereo positions of the skull.

REPORT OF CASES

The following brief case reports illustrate the information that may be obtained from the encephalogram:

CASE 1.—A child, aged four years, was brought to the hospital by the parents because of convulsions. The neurological and physical examinations failed to show any evidence of organic disease. The encephalogram (Fig. 1) disclosed that there was little, if any, air over the right cerebral cortex as compared with the left, whereas the ventricular system was of normal shape and position. This finding indicated that, at some time, the patient had probably had a subarachnoid hemorrhage, which resulted in an adhesive arachnoiditis. This arachnoiditis was probably causing enough irritation to produce the convulsive state.

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CASE 2.—A female patient, aged 24 years, had received a cerebral injury at the time of birth, which, when we saw the patient, was manifesting itself clinically as a left hemiplegia. The encephalogram (Fig. 2) showed no air in the ventricular system and a marked external hydrocephalus, particularly on the left.

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CASE 3.—The third case was that of a girl, 15 years of age, who, four weeks prior to the taking of the encephalogram, had had a basilar skull fracture. The patient complained of terrific headaches and was unable to talk. The roentgenograms (Figs. 3 and 4) demonstrated the ventricular system exceptionally well, but no air was seen over the cortex of the brain. This finding indicated a diffuse hemorrhage over the entire cerebral cortex, which occluded those subarachnoid spaces.

IN CONCLUSION

Encephalography marks a definite step forward in the progress of medicine. It is of value as an aid in diagnosis and prognosis, and it constitutes a form of therapy in certain selected cases of brain disturbance.

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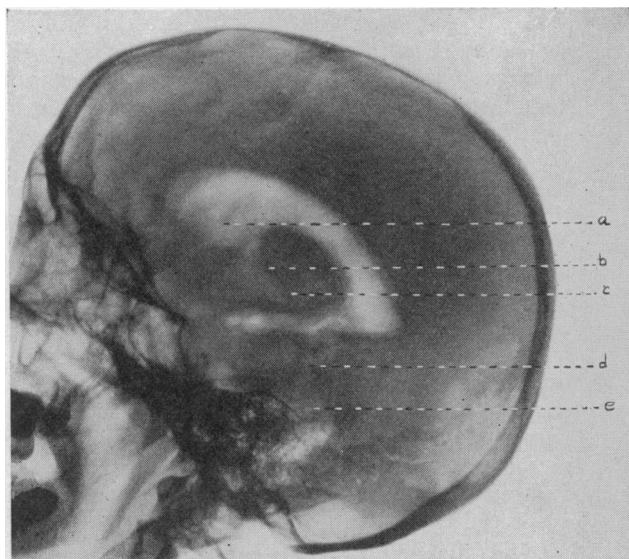


Fig. 3

Fig. 3.—An unusual demonstration of the ventricular system. No air is seen over the cortex of the brain. (a) Lateral ventricles; (b) Middle commissure; (c) Third ventricle; (d) Aqueduct of Sylvius; (e) Fourth ventricle.

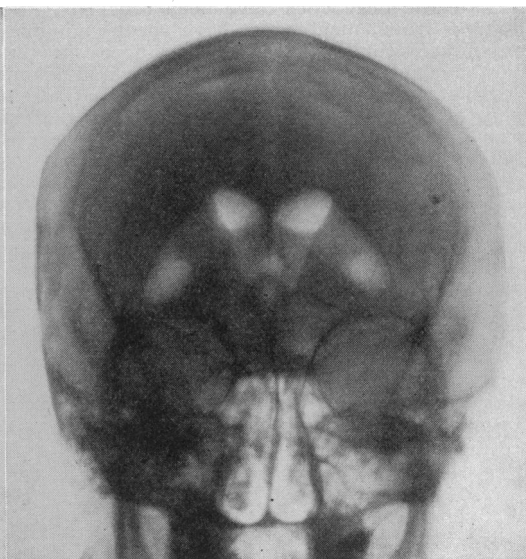


Fig. 4

Fig. 4.—PA view of Figure 3, showing no deviation of ventricular system and no filling of subarachnoid spaces over the cortex of the brain with air. This is a case of subarachnoid hemorrhage following basilar skull fracture.

DISCUSSION

HOWARD FLEMING, M. D. (384 Post Street, San Francisco).—Doctor Lindemulder's paper, emphasizing the value of encephalography as a diagnostic measure, is most timely. Visualization of the size, form, and position of the ventricle and subarachnoid spaces will often give valuable information as to the intracranial pathology. This is particularly true in patients suffering from convulsions. Only too frequently patients are treated for idiopathic epilepsy without proper investigation. Encephalograms often reveal unsuspected pathology in such cases.

The procedure is attended with a slight amount of risk. This is especially true in elderly patients with advanced arterial changes and in patients with signs of increased intracranial pressure. Symptoms or signs of the posterior fossa lesion are definite contraindications for encephalography. In these cases the introduction of air directly into the ventricle is the method of choice.

The technique of encephalography is not standardized. Most surgeons prefer to carry out the procedure with the patient anesthetized and in a sitting position. In our experience, the use of two needles in the lumbar spaces adds to the safety of the procedure, and gives a greater percentage of satisfactory results. Recently the use of gases other than air, as reported by Dr. Robert Aird, promises a marked improvement, particularly as to the reaction on the patient.

The interpretation of the films is the most important part of the test. Wide variations from normal offer no difficulty, but frequently the changes are slight. The most meticulous attention to detail must be used in taking the film, if error in diagnosis is to be avoided. Improper position of the head or misdirection of the ray will often eventuate in films that suggest pathology and may be most misleading.

Encephalography is a diagnostic help only and must be correlated with all other information to be obtained. Cases for its use must be selected carefully. Indiscriminate use of encephalography might very well serve to discredit this most valuable diagnostic aid.

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E. B. SHAW, M.D. (384 Post Street, San Francisco). Visualization of intracranial conditions is a valuable adjunct to the usual methods of anatomic diagnosis

of the diseases of the central nervous system in childhood. Encephalography not only accomplishes visualization, but sometimes affords surprising therapeutic effects. It is of especial value in conditions involving cerebral birth accidents and congenital defects of brain development.

Despite the value of the method, the precautions and contraindications mentioned should be weightily regarded. The procedure is not intricate, but its employment, and particularly the management of its complications, requires a trained neurosurgical technique. The interpretation of results is not altogether simple, and training and experience are necessary lest artifacts be interpreted as true anatomical lesions.

This paper has been presented to pediatricians, and it behooves us to employ the method as indications arise. Few of us, however, possess the requisite training, or encounter a sufficient number of cases to enable us to perfect a technique of performance or the interpretation of results.

As a final word of caution, it might be proposed that encephalography be not regarded as a pediatric procedure, but should preferably be delegated by the pediatrician to those who have adequately perfected their methods, are sufficiently skilled in interpretation of results, and are prepared to carry out such further steps as are indicated or necessitated by this diagnostic procedure.

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MARK ALBERT GLASER, M. D. (727 West Seventh Street, Los Angeles).—Doctor Lindemulder has clearly emphasized the importance of encephalography as a diagnostic procedure. Furthermore, he has definitely stated that this method of diagnostic procedure is not without risk. The mortality in encephalography carried out in the proper hands is about one-quarter of one per cent. The encephalogram is not only of diagnostic value, but in certain cerebral cases is a valuable therapeutic adjunct.

Encephalography should not be looked upon as a terrifying procedure, and valuable information which can be obtained from such procedure should be a matter of common knowledge.

By the encephalogram we are able to visualize changes in the ventricles as to size and shape, and abnormalities in the subarachnoid space, such as adhesions or atrophic areas, may be observed. Therapeutically, convulsive states have been benefited;

post-traumatic headaches have been relieved and the adhesions from meningitis have been eliminated. Furthermore, convulsive states secondary to brain tumor have been accurately diagnosed, and in cases of birth trauma some prognosis as to the exact amount of damage, as well as the future of the child, can be arrived at. In other words, the procedure is definitely indicated in obscure neurological diseases wherein a clinical diagnosis cannot be accurately made or when brain tumor is suspected. This procedure has definite contraindications, as pointed out by Doctor Lindemulder; and in such cases wherein an outline of the brain is desired, ventriculogram is indicated.

I have enjoyed hearing Doctor Lindemulder's paper and I want to congratulate him on simplifying a subject which has heretofore been looked upon as technical, dangerous, and uninteresting.

RECONSTRUCTIVE PLASTIC AND ORAL SURGERY*

By ARTHUR E. SMITH, M. D.
Los Angeles

DISCUSSION by William S. Kiskadden, M. D., Los Angeles; Francis L. Anton, M. D., Los Angeles; George Warren Pierce, M. D., San Francisco.

THE recent economic crisis has brought to our attention an urgent demand for reconstructive surgery. Competition for a chance to start in the business world, more so to maintain a position therein, is so keen that one handicapped by a physical deformity must show a prodigious mentality to be considered. These unfortunate people are innocent victims of circumstance; who are often objects of pity and may even evoke the aversion of their friends. They are prone to become recluses and live somewhat like the marked introvert. They may not become efficient in even the most simple lines of endeavor, resulting in a condition which leads to the establishment of an inferiority complex. Why should we, as medical men, permit such a situation which can so easily be prevented by reconstructive plastic surgery!

There has been a definite trend in our modern civilization towards accentuating beauty in all forms of commercial industry, as is represented by architecture, municipal planning, automobile and aeroplane designing, and even in our personal stationery. This trend, whether or not admitted by the critic, certainly stands out as a definite fact. Employers show a marked tendency to select only those individuals who are personable as well as capable. We, in this community, are particularly confronted with countless demands for the correction of those defects which are magnified by the camera in one of our largest industries, the production of motion pictures. One can readily appreciate the personal economic value of the correction of a slight deformity which may bar chances for advancement in a chosen field. Defects should be corrected in the formative years, thus assuring better results from a cosmetic and psychological standpoint. Observations in the streets, the theatre or the schools evidence the truthfulness of this statement.

*Read before the General Surgery Section of the California Medical Association at the sixty-third annual session, Riverside, April 30 to May 3, 1934.

THE FIELD OF PLASTIC SURGERY

The field of plastic surgery which rightfully belongs to the medical profession has been invaded, not only by quacks and charlatans, but by unethical and ill-prepared practitioners as well. By means of unscrupulous and flagrant advertising, these people have placed themselves before the public eye as the ultimate need of anyone seeking beauty or health. This, coupled with the bad results of their "curative art," is exemplified by the fact that we have, in our court records, examples of people seeking redress for the often irreparable damage that they have done. Consequently, the public has a mistaken idea of plastic surgery, and a disrepute has been imposed on this specialty. It is the responsibility of organized medicine to educate the public to the real value and work of the ethical plastic surgeon who is respected by his colleagues.

Many have incorrectly considered plastic surgery to be entirely a development of the recent war. While the progress of reconstructive plastic surgery since that time has been great, literature reveals that successful plastic operations were accomplished centuries ago. Attention was called to this fact in a paper read before the American Surgical Association in 1925, by Dr. John Staige Davis, plastic surgeon at Johns Hopkins University. Tagliacozzi, in 1597, was the first to write a book on plastic procedures, but there were earlier reports of plastic surgery of the face by Benedictus in 1492. The technique as described by Tagliacozzi was forgotten until the eighteenth century, when it was enthusiastically revived by many surgeons who recognized the value of this specialized branch of general surgery.

INFLUENCE OF THE GREAT WAR ON PLASTIC SURGERY PROCEDURES

The volume of deformities resulting from the recent great war stimulated the establishment of many procedures of plastic surgery which previously were merely experimental. Among the methods of modern advancement, the writer desires to place special emphasis on the value of Gillies' tubed pedicle, the use of a modeling compound method in the application of the Thiersch-graft, the application of mechanical principles in splinting and moulding the tissues, and the cartilage transplant. Plastic surgery of the face and the tissues involving the oral cavity is one of the most difficult branches of surgery from the standpoint of cosmetic appearance and restoration of normal function, frequently in the presence of infection.

THE AUTOMOBILE A CAUSATIVE AGENT IN FACE DEFORMITIES

The automobile is possibly the greatest factor in producing deformities of the face, especially the nose and jaws. Present day sports, such as boxing, wrestling, football, basketball and swimming, often result in broken noses and jaws, torn and lacerated facial tissues, formation of cauliflower ears, all of which demand repair. Efficient